

Serial No. 09/903,024
Group Art Unit: 2653

Amendments in the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1. (previously presented) A head suspension comprising:
a base;
a load beam having a first end and a second end, a longitudinal axis extending between the first end and the second end of the load beam, and a transverse axis extending perpendicular to the longitudinal axis within the first plane; and
a bend section extending in a first plane and connecting the base to the second end of the load beam to define a load path for transmission of forces between the base and the load beam, the bend section including a transverse axis aligned parallel to the transverse axis of the load beam, a longitudinal axis aligned parallel to the load beam longitudinal axis, a width measured along the transverse axis of the bend section between first and second sides of the bend section, and first and second rails formed from material of the bend section and extending in a direction parallel to the transverse axis of the bend section, the first and second rails being bent out of the first plane so as to form an open channel across at least a portion of the width of the bend section, the open channel being positioned in the load path such that the forces transmitted between the base and the load beam pass through the open channel.
2. (previously presented) The suspension of claim 1 wherein the first and second rails extend in second and third planes distinct from the first plane.
3. (previously presented) The suspension of claim 1 wherein each of the first and second rails has a separate width, thickness, and length, the width of the first and second rails being substantially similar to the width of the base.
4. (previously presented) The suspension of claim 1 wherein the first and second rails extend in a direction substantially normal to the first plane.

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5. (previously presented) The suspension of claim 1 wherein the first and second rails are separated in the longitudinal axis direction of the bend section, and a portion of the bend section extending in the first plane connect the first and second rails together to form the open channel.
6. (previously presented) The suspension of claim 1 wherein a cross-section of the open channel is substantially U-shaped.
7. (previously presented) The suspension of claim 1 wherein either the first rail or the second rail comprises two segments along its width.
8. (canceled)
9. (previously presented) The suspension of claim 1 wherein a cross-section of the open channel is substantially circular.
10. (previously presented) The suspension of claim 1 wherein a portion of the bend section and the first and second rails is removed on one side of the longitudinal axis.
11. (previously presented) The suspension of claim 1 wherein the load beam has a width centered about the longitudinal axis, and wherein the width of the first and second rails is greater than the width of the load beam and no wider than a width of the base.
12. (previously presented) The suspension of claim 1 wherein the load beam has a width centered about the longitudinal axis, and wherein the width the first and second rails is less than the width of the load beam.
13. (previously presented) A suspension member comprising:
a plate extending in a first plane, the plate having a width centered about a longitudinal axis of the plate; and

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first and second rails formed from material of the plate and each having a width extending in a direction transverse to the longitudinal axis of the plate, the first and second rails being bent out of the first plane and being spaced apart in the longitudinal direction, the first rail having a length extending in a second plane and the second rail having a length extending in a third plane, the second and third planes being different than the first plane, wherein a portion of the plate extending in the first plane connects the first and second rails together to form an open channel having a generally U-shaped cross-section, a portion of the first and second rails extending across substantially all of the bend section width.

14. (previously presented) The suspension member of claim 13 wherein the second and third planes are perpendicular to the first plane.

15. (previously presented) The suspension member of claim 13 wherein the second and third planes are at an angle less than 90° from the first plane.

16. (previously presented) The suspension member of claim 13 wherein the second and third planes are at an angle greater than 90° from the first plane.

17. (previously presented) The suspension member of claim 13 wherein the second and third planes extend at different angles from the first plane.

18. (previously presented) The suspension member of claim 13 wherein the second plane and the third plane are curved.

19. (currently amended) A head suspension comprising:

a base;

a load beam; and

a bend section including a base plate having a first end and a second end, the first end being coupled to the load beam and the second end being coupled to the base, the base plate extending in a first plane, and a rail coupled to the plate, the rail having a width, a length, and a

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thickness and extending in a second plane, the first plane being different from the second plane, the rail width being defined across the bend section in a direction transverse to a longitudinal axis of the head suspension, whereby the base or of the load beam is coupled to the bend section along the width of the rail.

20. (previously presented) A suspension member comprising:
a base;
a load beam; and
stiffening means extending in a first plane and coupling the base and load beam for maximizing translational stiffness of the load beam in a direction out of the first plane while minimizing rotational stiffness of the load beam, the stiffening means including first and second rails each having a width extending in a direction transverse to a longitudinal axis of the suspension member, a length extending in a direction out of the first plane, and a thickness, the first and second rails being spaced apart along the longitudinal axis and being connected by a portion of the stiffening means that extends in the first plane so as to form an open channel; whereby the base or the load beam is coupled to the stiffening means along the width of the first or second rail.

21. (previously presented) A head suspension comprising:
a base;
a load beam extending in a first plane having a first end and a second end, a longitudinal axis extending between the first end and the second end of the load beam, and a transverse axis extending perpendicular to the longitudinal axis within the first plane; and
a bend section connecting the base to the second end of the load beam, the bend section including a transverse axis aligned parallel to the transverse axis of the load beam, and a longitudinal axis aligned parallel to the load beam longitudinal axis, a width measured along the transverse axis of the bend section, and a rail having a width extending in a direction parallel to the transverse axis of the bend section and a length extending out of the first plane, wherein the rail includes at least two separate segments along the rail width.

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22. (new) A head suspension comprising a base, a load beam, and a bend section each aligned along a longitudinal axis of the head suspension, the bend section extending in a first plane and connecting the base and the load beam to define a load path for transmission of forces between the base and the load beam, the bend section including a width extending transverse to the longitudinal axis, and first and second rails formed from material of the bend section, the first and second rails being bent out of the first plane so as to form an open channel that extends across at least a portion of the bend section width, the open channel being positioned in the load path and wherein the open channel and the first and second rails are arranged and configured to minimize torsional compliance of the head suspension about the longitudinal axis while minimizing changes in torsional compliance of the head suspension about a transverse axis located in the first plane and lying generally perpendicular to the longitudinal axis.

23. (new) The head suspension of claim 22, wherein the first and second rails are connected to one another by bend section material that extends in the first plane thereby forming a generally U-shaped open channel.

24. (new) The head suspension of claim 22, wherein at least one of the first and second rails extends across an entire width of the bend section.

25. (new) The head suspension of claim 22, wherein the base is configured to be coupled to the bend section within a width of the first rail, and the load beam is configured to be coupled to the bend section within a width of the second rail.

26. (new) A suspension member bend section suited for use between a suspension load beam and a suspension base member, comprising:
a plate extending in a first plane, the plate having a width centered about a longitudinal axis of the plate; and
a rail formed from material of the plate and being bent out of the first plane, the rail having a width aligned substantially parallel with the plate width and having a length extending in a second plane that is different from the first plane;

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whereby the plate is configured for mounting to the load beam or the suspension member within the width of the rail.

27. (new) The suspension member of claim 26, wherein the suspension member includes first and second rails aligned substantially parallel to the plate width, each rail being formed from material of the plate and being bent out of the first plane into respective second and third planes that are different from the first plane, the first and second rails forming an open channel across at least a portion of the plate width, and the plate being configured for mounting to the load beam or the suspension member within the width of the first or second rail.